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SCHOOL AND SOCIETY

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CONTENTS

Cultural Possibilities of Practical Subjects: JESSE H. BOND 23

A Study in Smoking: H. W. MATTFIELD, JR. 26

Educational Events:

A World University; The Cost of Education in England; An Educational Commission to East Africa; The Pan-American Congress and Education; A Course for Apprentices in the Carnegie Institute of Technology; The Catholic University of America; Gift for a Playground in New York City; Governor Pinchot and the Pennsylvania School System 31

Educational Notes and News 36

Special Correspondence:

Pedology at Moscow: P. TUTYSHKIN 40

Discussion:

What it costs to-day to go to College: C. H. FORSYTH 44

Quotations:

1923 in Review 45

Engineering Schools and the Industrial Outlook 46

Educational Research and Statistics:

Factors Influencing the School Success of the Blind: LOUIS A. PECHSTEIN 47

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SCHOOL AND SOCIETY

Volume XIX SATURDAY, JANUARY 12, 1924 Number 472

CULTURAL POSSIBILITIES OF PRACTICAL SUBJECTS

CULTURE is enlightenment and discipline acquired by mental and moral training. For centuries the study of the classic languages, Latin and Greek, has been urged on the ground that such study is a peculiarly effective vehicle of culture. There is only one word of this claim that the present writer challenges, and that is the word "peculiarly." He does not, could not and would not contend for a minute that the study of the classics is not an effective means of culture. He merely makes a similar claim for practical subjects when taught by cultured persons.

The critical discussion of these conflicting claims must revolve around the question of the transferability of such improvements as result from educational training. The experiments of Thorndike, Woodworth and Norsworthy indicate that when a mental function is trained with certain data, the improved efficiency due to the training rapidly diminishes as the nature of the data is altered. For example, training in estimating the length of lines from one half to one and one half inches long, which resulted in a reduction of the average error to 25 per cent. of the initial amount, gave no improvement whatever in estimating the length of lines six to twelve inches long. At the Montana State Normal College careful experiments were carried out to determine whether, in the intermediate grades, the habit of preparing neat papers in arithmetic will lead to neatly written work in other studies. Although the improvement was immediately noticeable in the arithmetic papers, there was a startling lack of improvement in language and spelling papers. Similarly, it is not necessarily true that the discipline acquired in the study of geometry or algebra will enable the student to "reason" any better in biology or psychology or political economy. The efficiency in observation gained in the study of botany or chemistry will not necessarily cause the student to be more acute in his observation in bookkeeping or in politics. But why not?

The transfer of discipline from one subject to another involves a highly intelligent and conscious use of ideals. If the student has acquired a habit of neatness in one kind of work, it is necessary, if a transfer is to be effected, that he notice the neatness itself as an ideal. From many more or less pleasing experiences of neatness in the particular and concrete cases that succeed one another from day to day in the one kind of work in which neatness has become a habit, the mind of the student must abstract the quality of neatness as something independent of particular cases, erect it into an ideal, and then apply it consciously in other activities. Neatness does not transfer itself from one activity to another any more than a cup transfers itself from one saucer to another; it must be noticed as being separable, and then it must be picked up consciously and carried. What is true of neatness is true of any other quality that human behavior may exhibit. It is true of each one of the elements that we lump together under the names of culture, enlightenment and discipline.

We are now ready to inquire why the study of Latin, Greek or any highly developed foreign language has cultural value. The student is put in a long series of concrete and particular situations which present him with multiplied opportunities for noticing and abstracting certain important ideals. Satisfactory headway can be made only by long-continued hard work.

Mysteries are encountered continually and are very definitely and pleasurably cleared up only as a consequence of concentrated effort. Learning that is inadequate is automatically "shown up" even to the learner himself. The consciousness of having been baffled time after time before the final clearing up of a meaning is achieved encourages modesty and discourages self-conceit as to ability in the subject. On the other hand a pleasant consciousness of power comes from repeated experiences in the mastery of successive difficulties. The student learns to respect the weight of expert opinion as embodied in commentaries and dictionaries; he learns to defer to a criterion outside of himself as to the validity of rival contentions. Having paid the price of excellence himself, he respects it in others as far as the particular study is concerned. Previous knowledge is ransacked for suggestions as each new difficulty arises, and only by this means can it be mastered. Recognition by the student of likenesses between his own meanings and those of his fellow-men in other times and countries tends to cultivate in him a fellowship with the great souls of the past and to expand his consciousness of solidarity with all humanity. Finally, the discriminating use of words and grammatical forms is continually and insistently suggested.

Thus, if the subjects are well taught, a study of the classics, mathematics and pure science furnishes the student with a series of rich opportunities for the discovery, appropriation and erection of such ideals of general application as hard work persistently carried through to a finish, accuracy, thoroughness, humility, self-reliance, respect for expertness, the systematic use of past knowledge in the solution of present difficulties, tolerance, attention to the forms of grammar and rhetoric and precision in the use of the mother tongue. There is, on the other hand, *no guarantee that any given student will notice, abstract and transfer these ideals.* The probability that he will do so varies directly with the degree of his native intelligence. Teachers, schools and courses of study can furnish opportunities for the training of brains; they can not make brains out of wood or ivory.

This brings us to a consideration of the selective effect of cultural studies. Only persons endowed with superior intelligence and inhibitory power can pursue such subjects with satisfactory success. Therefore, the person who makes a creditable record in the study of the classics is rather likely to be a person who will notice and abstract ideals. It is, therefore, a mistake to attribute the culture of such an individual exclusively to his classical studies. Something depends on nature. Only persons of a superior nature will stand a long exposure to classical studies, and superior persons are the only ones who are likely to take a transferable enlightenment and discipline from such an exposure.

To throw this fact into high relief let me illustrate by contrasting great differences in intelligence. Helen Keller's teacher began her education by furnishing her pupil with multiplied opportunities for noticing and abstracting the idea of a sign as something separable from the thing signified. She traced on Helen's hand the letters of various names and after each tracing caused Helen to experience the thing named. For instance, she would trace on Helen's palm the letters of the word "cat" and then put the cat in Helen's lap and let her stroke it. She traced the letters of the word "water" and took Helen to the pump where she pumped the water itself over Helen's hand. After many repetitions, the meaning of seven of these tracings came to be distinguished by Helen. Then, one day, at the pump, when the water began flowing over her hand Helen's face lighted up with the pleasure of the great discovery that there were such things as *signs.* She wanted immediately to learn the signs for many other things and from that moment her education proceeded satisfactorily.

Helen then tried to teach her dog by the same method, but the dog never made the great and stimulating discovery that Helen herself had made. The more skillful the teacher the more favorable the opportunities for discovery can be made, but the pupil is the one who must make the discovery if the intended results are to be achieved. In like manner the student of the classics must notice and transfer ideals consciously if there is to be any profit to him in the way of culture. If he lacks the native intelligence to make the discovery the work is mere deadening drudgery.

We come now to our principal contention. If classic studies furnish opportunities for noticing, adopting and transferring ideals, so also do practical studies if they are taught by teachers of equal skill and culture. There is no classical study that offers better opportunities for acquiring ideals of neatness, accuracy, humility, self-reliance and persistence in going through with hard work to a finish than bookkeeping and accounting. Shorthand and typewriting are not far behind. On the opportunities offered by manual training let me quote from John Fiske:

> There is something strongly educational and disciplinary in the mere dealing with matter, whether it be in the manual training school, whether it be in carpentry, in overcoming the inherent and total depravity of inanimate things, shaping them to your will, and also in learning to subject yourself to their will (for sometimes you must do that in order to achieve your conquests; in other words, you must humor their habits and proclivities). In all this there is a priceless discipline, moral as well as mental.

The same thing may be said of home economics, of nearly any field, laboratory or shop work. There is no classical study that offers exactly the same opportunities for the student to learn to take off his hat to a fact.

There is no subject among the classics that offers more mysteries that clear up before persistent and concentrated study than are offered by the mathematics and statistics of life insurance. In opportunities for exact statements of facts, for thorough and efficient reasoning and for the application of past knowledge to present difficulties, the study of law is unexcelled. In opportunities for acute observation, critical investigation, circumspect thinking and systematic organization of ideas there is no classical study that is the peer of economics or politics. Finally, a cultured use of the mother tongue can be taught through a practical and common-sense study of the mother tongue itself.

Present-day practical studies present opportunities for the absorption of ideals of a type that are lacking in the classics. Where in the classics are students likely to learn the value of critical inquiry into the adequacy and dependability of descriptions or narrations of facts? I have a close friend who is a university teacher of Latin and Greek, but he learned from another friend who teaches economics and commerce to be critical of what he reads in newspapers and magazines. Where in the classics can one gain as good a conception of the relation of cause and effect as can be obtained from the study of economics, political science, psychology, economic geography and geology or the economic history of England and the United States? Where can he learn how the other half lives and thinks any better than in the study of labor problems? Truly, modern practical studies offer a more expansive range of opportunities for the discovery, espousal and transfer of effective, useful and cultural ideals than the study of the classics. The idea that the classics are the peculiar vehicles of culture opportunities at the present time is fallacy.

We are now in a position to ask why it is that certain people still insist that this conclusion is inadequate and that in spite of the reasoning we have just done, the classics are yet the peculiar vehicles of culture. It may help us if we have observed that those who have done their work in eco-

nomics, history, psychology, mathematics, biology, law, sociology or chemistry are equally sure of the peculiarly enlightening and disciplinary value of their particular subjects. Each of us tends to attribute to the potency of the subject itself the ideals which the pursuit of it enabled him to discover and espouse. How the same ideals might be discovered through equally efficient work in some entirely different subject may be to us a baffling mystery. This is especially true of those who have done most of their work in some one limited field. Actually more depends on the quality of the work and the skill and philosophy of the teacher than on the nature of the subject. Your speaker owes opportunities for the discovery of his own ideals less to his four years' work in Latin and lesser amounts of work in Greek, German and French than to equally thorough work in physical geography, chemistry, geology, zoology, English, psychology, economics, statistics, and last, but not least, assistance in manual labor rendered to or along with his own father. To the mind which has the capacity for this kind of discovery every subject may be made to offer rich opportunity.

Much depends upon the interest developed in the work itself. Native intelligence being equal, and assuming equal skill and culture in the teacher, more interest may be developed in present-day practical subjects because the purpose sought in the study is nearer and clearer. In this very important respect, therefore, practical subjects are, for many people, richer in cultural possibilities than the classics.

To guard against misunderstanding it may be well to say that this article is not intended to convey the impression that an exclusively and narrowly practical education is an ideal one from the cultural standpoint. The present writer is not disposed to stretch the meaning of the word "practical" to make it include all desirable and worthwhile subjects. Ideal culture includes, of course, an acquaintance with the great thoughts of the great souls of other times and races than our own. It includes an appreciation of the beauties of nature and of art. By what types of teaching and of studies can students be furnished with the richest opportunities for personal discovery of these thoughts and beauties? At one time the study of Latin and Greek offered practically the only approach to these opportunities. That day began to draw to a close with the invention of printing, the translation of the Bible, the rendering of the finest literature of Greece and Rome into beautiful English and the development of modern letters. The facts in this field of culture are so varied and the personality of the teacher is of such overwhelming importance that it is impossible for any person with a sense of humor to dogmatize. There is much to be said, however, for the approach to these culture opportunities through the mother tongue. If, to the discipline and enlightenment acquired through the study of practical subjects, an acquaintance with the more ideal elements in culture could thus be added, a most advantageous education would result.

Finally, it may be said that no studies, whether classical or practical, can take the place of intimate personal contact with cultured persons—persons whose culture is so wholesome, so ingrained and so wisely kind that their words and deeds make the ideals of culture shine through the social atmosphere like the bright stars of heaven on a cloudless night. Such persons increase vastly the likelihood that cultural ideals will be discovered, espoused and transferred by their associates.

JESSE H. BOND
UNIVERSITY OF NORTH DAKOTA

A STUDY IN SMOKING

THE problem of smoking among boys, while naturally of interest to all educators, is an especially absorbing one in private

secondary schools. In such institutions, where the students are thrown in contact with each other for practically all the time, the example and influence of the older boys may frequently be a more serious concern than in the public school, where the home influence, if it is of the best, is always at hand to cooperate with the teacher and is not far distant, to be traversed by letter only, or in case of emergency by an occasional visit from the parent. As a result of the example of the older students, the younger ones are likely to grow up more rapidly—certainly in the externals of maturity. In general, such youths begin to shave earlier, to put on long trousers sooner, to have an interest in girls and dances at a time when their friends in the public schools as a whole have other and saner occupations. In looking towards college, the private school boy too frequently centers his thoughts pretty largely upon fraternities, drinking, loose women and athletics; all too rarely does he stop to view his prospective college course as a serious intellectual concern.

Smoking, of course, is no exception to this generalization. At least, among boys from comparatively the same types of homes, smoking is likely to begin earlier in the cases of those who go away to school than in the cases of those who don't, chiefly because of the example and influence of older companions. It is this circumstance that makes smoking a nightmare to many a headmaster. On the one hand, he has older boys, many of whom have a real fondness for tobacco and who will evade every sort of regulation to indulge that fondness. Yet he must attempt to prevent smoking among his younger pupils.

To meet this condition he will often give up what may seem to be the impossible, and will legalize smoking among his older students. While each institution which has any such system administers it according to its local needs, smoking systems generally mean that boys over a certain age with their parents' permission may do a limited amount of smoking under certain variable conditions. Frequently, this is a matter of signed agreements, sometimes making it compulsory to report boys not on such an agreement when they smoke. Such arrangements obviously have plenty of loopholes for the ingenuity of youth. For example, it frequently happens that where pipe smoking is permitted, boys will smoke all the cigarettes they please when the authority of the school is absent, but will immediately begin to produce pipes upon the appearance of a master. As a whole, a smoking system, where conscientiously lived up to, will restrict smoking among the boys covered by it; but it probably does not materially check smoking among boys who do not possess willing parents or the requisite number of years, and such a system undoubtedly tends, unavoidably, through the influence of older boys, to produce smoking sooner among the younger students.

In the best northern private schools with which I am acquainted, smoking is completely banned, and in most cases with a pretty high degree of success; for here the school boy who smokes is frequently viewed by the sentiment of his social group as being—may we say?—in that vague and general category known as "bad boys."

On the other hand, in the south schools of the same position as those referred to above will generally be found to have a considerable amount of smoking, usually legalized, simply because here there is seldom any moral disapproval by his elders of the young man who uses tobacco. Most of the fathers smoke themselves, and neither father nor mother seems averse to giving permission to their insistent sons.

It may be here objected that most modern parents are generally everywhere found yielding to their children not only in regard to smoking but in all similar demands. While this is very likely to be the case, the difference between the north and

the south in this one matter at any rate is a commonplace which the southern school master will usually put in the first place among his reasons for legalized smoking.

Among the few southern schools which prohibit smoking is the Virginia Episcopal School of Lynchburg. During its seven years of existence our attempts to decrease the use of tobacco have taken the following five general courses:

(1) A severe penalty, at present involving in addition to a large number of demerits, confinement to the campus for a period of four weeks. Inasmuch as we are in the midst of a wooded country and make absolutely no effort to spy on boys in any way, with reasonable precautions the smoker may avoid this penalty. The few boys found smoking are discovered purely by accident or by the carelessness or stupidity of the boys themselves. This rule does, however, reduce the amount of smoking and does keep some boys from the practice. Obvious disadvantages of the rule are that it leads to sneaking and subterfuge and does not necessarily stop a boy from smoking when he is caught.

(2) At two different periods attempts have been made to get the most persistent smokers to enter upon agreements not to smoke except with limited permission from the rector of the school. In both cases the agreements were "worked" to the limit and smoking increased on the part of the boys not included, a result which, as I suggested above, is likely to be true of any legalized smoking.

(3) At one time any boy frequently reported as being suspected of smoking was given his option of signing a pledge or going home. While it can not be definitely stated, it is probable that such pledges were broken with a consequent weakening of the morals of the boy and the honor system of the school. Such arrangements should be resorted to only when the infringement of the rule is persistent and stubborn.

(4) In common with most private schools a monitorial system is in existence here, but differently from most of them our counselors are pledged not to use tobacco, and they keep the pledge. As they are chiefly the older boys—the smokers—the amount of smoking is naturally lessened. Furthermore, a strong counselor body by its moral influence can keep small boys from beginning to smoke and the older ones from indulging in the practice, especially since they are required to report boys suspected of smoking as well as those actually smoking. That the counselors do all this speaks most strongly for our honor system, but whether the pledge could be extended to the whole school, not merely to its most representative and outstanding students, is questionable.

There are also a number of boys, not counselors, from time to time on athletic training pledges, who can be counted under this head in part.

(5) And in the last place the authorities of the school by appeals to the best qualities of the students, as a matter of the highest interests of the institution can accomplish a great deal. Arguments based upon the practical reasons against smoking, such as decreased mental and physical efficiency, may have a logical appeal, but really do not, I believe, greatly influence the action of the average boy, which is probably a result of liking and a spirit of adventure. That such appeals do not eliminate smoking is because those who make the appeals in their presentation are of course subject to their own limitations just as the boys themselves undoubtedly are in their response. For, after all, we must always take the inherent weaknesses of human nature into account when evaluating behavior, especially of this nature.

Naturally under such conditions the actual state of the school in respect to smoking is a debatable subject. When the natural optimism of the better students may for some reason be depressed, then smoking is described as widely prevalent,

and every boy not on a pledge is to be considered as a flaming firebrand. The general atmosphere of the place will be rated as extremely low and all evils will be laid at the door of banned smoking with attendant demands for the direct legalizing of the trouble. Occasionally, on the other hand, there are moments of optimism, especially when some too daring smoker is apprehended.

In order to obtain some more satisfactory information in particular about conditions at a school where smoking is officially not countenanced and in general about smoking among southern boys from families for the most part in only ordinary circumstances, some time ago I had the whole school give me information and ideas on the subject. To insure complete frankness the questionnaires were not signed, and it was especially asked that real facts and ideas be given. The questions asked were as follows:

(1) Do you smoke? Age
(2) Do you smoke with your parents' permission?
(3) If you smoke at home, state exactly how much.
(4) If you smoke at school, state exactly how much.
(5) If you do not smoke at school, but at home, state why.
(6) If you have smoked at school, but do no longer, state why.
(7) Describe exactly how you came to smoke.
(8) State why you smoke. (Like it, etc.)
(9) Do you believe in the V. E. S. smoking rule? Why?

In the table here appended, the results for items 1, 2, 4 and 9 are tabulated according to ages and according to the amount of smoking done. By heavy smokers I mean boys who daily smoke more than ten cigarettes, by moderate boys who smoke lesser amounts but regularly even though the amount may be very small, and by occasional all boys who make no regular practice of smoking but who do sometimes smoke. In this last group are five boys who smoke occasionally at school, but not at all at home. Among the non-smokers are some who have previously smoked but who do so no longer either here or at home.

It will immediately be observed that smoking increases directly with the age as do the permissions to smoke. It will furthermore be seen that practically all the real smokers have permission, thus showing probably that the average parent looks upon the control of his children's smoking as a hopeless task. It would also seem that the attitude upon the smoking rule is pretty closely connected with the student's own smoking habits, though, as will be shown later, their reasons are based upon other notions. In other words, the younger boys and non-smokers who naturally know nothing of the pleasures of the weed can quite simply register approval, while for the smokers an altruistic attitude towards the question is not generally to be found.

The reasons for not smoking at school may roughly be tabulated as follows:

Pledges 34, penalty 8, school loyalty 17, parents 2, no reason 4, miscellaneous 1.

By far the largest number are those who are restrained by counselor or athletic pledges. This circumstance alone speaks highly for the soundness of the honor system theory as a practical basis for student control. A considerable group of this number—certainly more than 50 per cent. —would smoke here but for the pledges.

Another large section comprises those who may be said to be responding in the best way to appeals made to them when they give as reasons the arguments of the rector, a desire to uphold the rules of the school, aversion to sneaking or no pleasure in secret smoking, or poor spirit.

And there also seem to be some signs of hope for the hardly abused rules that a small group are deterred by fear of possible penalties.

The reasons for smoking here no longer in cases of those boys who have smoked in the past are very much the same as those given above in cases of the smokers who

don't smoke here, but do at home, and require no further comment. They are listed here for comparison: pledges 28, school loyalty 19, parents 4, good health 3, don't care to, 2.

The next question was the one dealing with the sources of the habit. The reasons are tabulated here: Influence of older boys, 30; to be sociable, 15; to be big, 13; apparent enjoyment of older people, 10; no certain reason, 7; to be manly, 7; adventure, 6; to pass time away, 3; nothing better to do, 3; example of parents, 3. As may have been surmised, the influence and example of others is the chief item. To be big and to be manly, also obviously enough, are important reasons. Very few boys, however, seem to recognize the spirit of adventure in their experiences. Yet in several cases where exact accounts were given, adventure would have been the exacter reason, and does undoubtedly play a far greater rôle than is here indicated.

Most of the boys who smoked do so because they really like smoking, not to disobey rules or the wishes of parents. A few have only a limited liking, and several of the occasional smokers admit having no liking at all.

To us at the school the reactions of the boys to the last question were of the greatest interest. Eighty-one boys were for the present order, including however almost all the non-smokers—and consequently the little boys—in the list. A glance at the table, as suggested above, will show that the boys' own habits are after all at the basis of their sentiments in regard to this rule. In almost every instance, however, it would seem that the boys had a genuine interest in the welfare of the school, and usually they prefaced their specific arguments with the statement that they felt the present rule did not work for the best interests of the school and consequently should be changed.

The various reasons given in support of the different opinions are roughly grouped as follows:

For the rule

Younger boys	30
Sake of school	24
Physical reasons	18
Mental efficiency	15
Athletics	11
Danger to property	6
Bad appearance	4
Bad habit	4
General good	3
Example of other schools	2
Habit of borrowing	1
Relaxation of rules	1
(With reservations	9)

For changes

Olders boys should, with permission	24
Difficulties of enforcement	9
Moral effects, etc.	6
Examples of other schools	5
Hasn't worked	5
Our method of handling	2
Better athletics	2
Peculiarities of enforcement	2
Made to go too far	1
Taking of older boys	1
(With reservations	11)

The last reason for a change requires some explanation. The argument is simply this: While we continue to take in as new students older boys who have already begun to smoke, we must expect difficulties in enforcing a smoking prohibition. Either we must take only little boys and bring them up in the way they should go, or alter the rule. This notion, as a matter of fact, has a bearing upon every side of school life in those institutions that admit such older boys, and will always probably handicap most schools so situated in every department except possibly athletics; and even here the highest sort of sportsmanship may be endangered by the embryonic professional athlete.

It is also curious to notice two things in the remarks dealing with smoking systems. Although very few of the boys smoke pipes, almost all of them advocated a system of pipe-smoking. And then in almost every case where an age limit was mentioned, it would generally correspond with the age of the proposer. If he were fifteen, fifteen would be the age specified and so on.

The boys from whom this information was obtained are not bad boys; they are not the sons of the idle-rich. For the most

Age	No.	Heavy smokers	With permission	Smokes at school	For rule	Moderate smokers	With permission	Smokes at school	For rule	Occasional smokers	With permission	Smokes at school	For rule	Non-smokers	For rule
21	2	2	2	0	2	0									
20	6	4	4	1	2	0								2	2
19	11	6	6	2	3	2	2	1	0	1	1	1	1	2	2
18	19	10	9	2	2	5	4	0	1	1	1	0	1	3	2
17	32	5	5	3	0	13	10	4	7	7	1	2	4	7	5
16	25	10	8	4	4	10	7	5	3	1	0	1	1	4	4
15	24	1	0	1		8	3	4	5	4	0	2	2	11	10
14	12					3	2	2	2	2	0	0	1	7	7
13	6													6	6
12	2													2	2
Totals	139	38	34	13	13	41	28	16	18	16	3	6	10	44	40

Number of smokers 95
Number of non-smokers 44
Smokers with permission 65
Smokers at school 35
For rule 81
Change rule 58

part they are from the country, the sons of country professional men or farmers. They are boys in whom a high sense of honor has been instilled.

That most of them smoke—or as the results would indicate—will smoke can not be attributed to bad morals on their part. To tell them so would insult their intelligence when they know their own fathers and relatives and most of the best men of the community smoke.

A reasoned appeal on the grounds of an improved efficiency in health and work will undoubtedly accomplish something, but it does not count for much probably with a boy who really likes to smoke or with the spirit of adventure in a boy, especially when faced with the influence and example of others.

In the last analysis an appeal to the innate idealism in every boy will accomplish more than reason or rule. The average boy is willing to sacrifice much for his school; especially is this fact demonstrated again and again in athletics, but it is true in other ways as well. He can be trained up even in this most difficult field of smoking; so that with time the custom of not smoking at a school may become a tradition, like other schoolboy traditions, to be kept and upheld in every way.

The school that obtains such a tradition may look forward to an era of higher and better usefulness than it could otherwise have.

H. W. MATTFIELD, JR.
VIRGINIA EPISCOPAL SCHOOL,
LYNCHBURG, VIRGINIA

EDUCATIONAL EVENTS

A WORLD UNIVERSITY

DR. AUGUSTUS O. THOMAS, president of the World Federation of Education Associations and commissioner of education for the State of Maine, who has been investigating the feasibility of the establishment of a World University, recently conferred with representatives of the San Diego Chamber of Commerce and local educators concerning the plan.

Milton A. McRae announced that Raphael Herman, retired manufacturer of Buffalo and Detroit, has offered to endow the proposed university to the extent of $1,000,000. Mr. Herman has also given $25,000 to the World Federation to be used as a "Peace through Education Plan."

Colonel Edward Fletcher, of San Diego, has offered to give 300 to 500 acres of land near the city to the university if it is built there.

In an interview given to the *Christian Science Monitor*, Dr. Thomas is reported to have said:

Final decision of where the university will be established, as well as the question of whether or not it will be established at all, will be made by the commission which I have been asked to appoint. It seems probable, however, that, since American capital will be used if the project is carried through, it will be established in this country.

Barcelona, The Hague, San Diego, and one other city, which I am not now at liberty to name, have so far put in their bids to be the seat of the university. No other country, however, in my opinion, would be as free from outside influence nor so fair in dealing with an international problem of this character as the United States.

As at present contemplated, the world university would receive between 10 and 15 graduate students from each of the 72 countries of the world, forming a student body of approximately 1000.

About half the period of study, or about two years, would be spent in travel and study in all the world, thus developing a true world consciousness that can not be gained in any other way. The other two years of the course would be consumed with work at the seat of the university. World civics would be prominent in the curriculum, as would languages, to facilitate easy communication between students.

Eventually, the university would hold a series of congresses, at which leaders of thought throughout the world would gather, work out their problems in harmony, and help cement the bond of world friendship. One of the first of these would call together the newspaper men of the world, and enable them to work out the history of journalism, understand its vital significance, and set up ideals and standards for future advancement. Such a congress first would review past achievements, and then, with the successes and failures that have passed into history prominent in thought, plan for the future.

The university would be nonpolitical, nonprejudiced and nonsectarian, and should revolutionize the science of education.

THE COST OF EDUCATION IN ENGLAND

THE net expenditure on each school child in England this year is £11 8s. 9d. (about $55 in normal exchange), according to a White Paper just issued by the English Board of Education. This is a very slight decrease over the two previous years. The London *Times Educational Supplement* comments editorially:

Two years of strenuous effort have reduced the average cost of educating a child in the elementary schools by the sum of 6s. 11d. Despite the fall in prices, the cost is slowly increasing, and the estimated saving per child this year on two years ago is 5s. 8d. It would appear that the average cost per child can not by any effort be brought below £11 per annum.

So far as total expenditure goes, no one, probably, would complain of such figures. If the coming generation are securing an adequate education at the cost to the community of a shilling a day per head, it is an insurance against the future that the Nation should gladly pay. It is when the figures are analyzed that doubts begin to rise. The cost per child in London is £16 4s. 5d.—that is to say, £4 15s. 8d. above the average, while the cost per child in Tipton (the lowest average), is £7 7s. 5d. The difference of the average cost of educating a child in London and Tipton is no less than £8 17s. . . . Is the fact accounted for by the additional efficiency of the London undertaking? Is Tipton cheap and inefficient and London dear and efficient? Ought more money to be spent at Tipton or less money in London?

The latest figures available for expenditures in education throughout the United States as published in Bureau of Education Bulletin, 1923, No. 16, show an estimated per capita cost of $58.69. This was for 1920. For the same year the per capita cost in public elementary schools was $39.12 and for high schools, $127.20.

AN EDUCATIONAL COMMISSION TO EAST AFRICA

THE Phelps-Stokes Fund and the International Education Board and mission societies of the United States and Europe have combined in organizing an educational mission to East Africa which will devote eight months to a study of hygienic, economic and educational conditions in that country in the light of experience in the Southern States. The expedition will follow the line of investigations carried on in West, South and Equatorial Africa in 1920 and 1921.

The chairman of the new commission is Dr. Thomas Jesse Jones, educational director of the Phelps-Stokes Fund, who headed the earlier commission. Dr. Jones set sail from New York on December 29 for France, with Dr. James Hardy Dillard, of the General Education Board and president of the Jeanes and Slater Funds;

Dr. Homer L. Shantz, agriculturist and botanist of the United States Department of Agriculture, and Professor J. E. K. Aggrey leave on January 5. The full party will start from London on January 16 and from Marseilles on January 17. The commission includes Major Hanns Vischer, secretary of the British Advisory Committee on Education; Garfield Williams, educational secretary of the Church Missionary Society; James E. K. Aggrey, a native of the Gold Coast and formerly a professor at Livingston College, Salisbury, N. C., and two secretaries, James W. C. Dougall, of Scotland, and George B. Dillard, son of Dr. Dillard.

The itinerary takes in Egypt and Sudan, Abyssinia, Kenya and Uganda, Ruanda and Urundi, Tanganyika Territory, Nyasaland, Southern Rhodesia, Northern Rhodesia, Portuguese East Africa and South Africa.

The purposes of the expedition are given as follows in the announcement of the Phelps-Stokes Fund:

1. To inquire as to the educational work being done at present in each of the areas to be studied;
2. To investigate the educational needs of the people in the light of the religious, social, hygienic and economic conditions;
3. To ascertain to what extent these needs are being met;
4. To assist in the formulation of plans designed to meet the educational needs of the native races;
5. To make available the full results of this study.

THE PAN-AFRICAN CONGRESS AND EDUCATION

GREATER educational opportunity was listed as one of the "eight general and irreducible needs" of the peoples of African descent in a "charter of rights" drawn up in London and Lisbon last November by the executive committee of the Third Pan-African Congress. A report of the congress by W. E. Burghardt Du Bois, former professor of economics and history at Atlanta University, was given in the issue of the *New Republic* for January 2.

The eight needs of African peoples, as given by the executive committee, are as follows:

1. A voice in their own government. 2. The right of access to the land and its resources. 3. Trial by juries of their peers under established forms of law. 4. Free elementary education for all; broad training in modern industrial technique; and higher training of selected talent. 5. The development of Africa for the benefit of Africans, and not merely for the profit of Europeans. 6. The abolition of the slave trade and of the liquor traffic. 7. World disarmament and the abolition of war; but failing this, and as long as white folk bear arms against black folk, the right of blacks to bear arms in their own defence. 8. The organization of commerce and industry so as to make the main objects of capital and labor the welfare of the many, rather than the enriching of the few.

State education is specifically cited as a need in Northern Nigeria, Uganda, Basutoland and the Belgian Congo. For the negroes of the United States the charter asks "the suppression of lynching and mob-law, the end of caste and the recognition of full citizenship despite race and color.

A COURSE FOR APPRENTICES IN THE CARNEGIE INSTITUTE OF TECHNOLOGY

IT is announced from Pittsburgh that 65 sheet metal union apprentices have begun a four-year training course at Carnegie Institute of Technology, and will be paid their regular wage by their employers for the time spent in school.

This record is the result of an agreement made between the Pittsburgh Local Union No. 12, Amalgamated Sheet Metal Workers' International Alliance and the Sheet Metal Contractors Association of Pittsburgh. While purely a local measure in its scope, the contract is regarded by educators, employers and union officials as the forerunner of similar agreements to be made leading towards the proper training of union trade apprentices.

Among the novel and somewhat radical terms of the agreement between the Pittsburgh local union and the employers is the stipulation that every apprentice attached to the union "must and shall attend sheet metal classes at the Carnegie Institute of Technology the last four years of his apprenticeship, or until he has finished the course for Sheet Metal Apprentices." The extent of cooperation to which the employers have committed themselves to assist in the training is recorded in the section of the agreement which says: "The employer shall send the apprentice to the Carnegie Institute of

Technology for trade instruction one day each week from October 1 to May 1 during the last four years of his apprenticeship. The apprentice shall be allowed his regular wage for days while attending school."

A special course for the apprenticeship training has been outlined, the subjects including shop work, patterndrafting and mathematics. The class of 65 apprentice students have been separated into four classes, each group attending the institute one full day each week. Each apprentice pays his own tuition fee.

As a reward for high scholarship in their studies special terms have been written into the agreement by means of which it has been made possible for a studious apprentice to receive increased wages. "As a reward of merit," says the agreement, "any apprentice receiving grade 'A' marks at the end of any school year shall receive two months' credit on his next eight months' period, thus reducing that period to six months." As all the apprentices are paid a definite scale of wages that is automatically increased every eight months, the scholarship plan gives each opportunity to secure his next regular increase two months earlier each year. The authorities at the Carnegie Institute of Technology will cooperate by sending to the employers each month report cards showing the progress made by the respective apprentices.

A joint committee, consisting of three members of the Contractors Association and three union officials, has been selected to act in an advisory capacity between apprentice and school, to adjust all differences that may arise, to terminate the apprenticeship and services of the apprentice if necessary, and to pass upon the admission of the apprentice applicant to journeymanship.

THE CATHOLIC UNIVERSITY OF AMERICA

THE archbishops of the American Catholic Church recently addressed a joint letter to the American Catholic Hierarchy appealing for an "increase, at least to double, the contribution" from each diocese for the development of the Catholic University of America, Washington, D. C. The annual collection for the university was taken at masses on Sunday, December 2, and the collection from each diocese is to be sent to the chancellor of the university before February 1, 1924.

Reference to recent endowment campaigns for secular colleges and universities was made in a special letter of Archbishop Curley, of Baltimore: "We must admit that our separated brethren show much greater interest in secular than we do in the sacred cause of Christian education. Millions of dollars find their way each year, by will, into the upbuilding of institutions wherein Christ and His teaching receive scant if any attention."

The work of the Catholic University is summarized in the university bulletin, part of which reads as follows:

The Catholic University of America. What it has done in 34 years.

For the Church, it has created a Catholic center of higher learning in the capital of the United States; appointed on its staff 233 Catholic professors; enrolled 16,137 students; dedicated to Catholic education 29 buildings; established 22 endowed chairs; collected in its libraries 250,000 volumes; secured for the benefit of its students 106 fellowships and scholarships; conferred 2,781 degrees in course.

For Catholic education: It has supplied professors for our seminaries, colleges and summer schools; prepared 3,206 Sisters to teach in our parochial schools; affiliated 216 high schools, set their courses of study and raised their standards; done the same for 60 novitiates of our teaching communities; conducted summer schools and institutes in Washington, Dubuque, San Francisco, Chicago, New York and other centers; published the *Catholic Educational Review;* published textbooks in the philosophy, history and methods of education; organized the Bureau of Education in the National Catholic Welfare Conference.

GIFT FOR A PLAYGROUND IN NEW YORK CITY

ACTING MAYOR MURRAY HULBERT, of New York, informed the Board of Estimate officially on December 29 that a prominent citizen "well known for his philanthropies, but who desires to have his name withheld," had offered the city $100,000 for the purpose of equipping a practical playground. If the offer is accepted and a fund for this purpose is established the city must agree to furnish a site and maintain the grounds.

Mr. Hulbert said the donor has in mind a site on Jerome Avenue, near Mosholu Parkway, the Bronx, but is willing to accept any other location that might be mutually agreed upon. Water and drainage within and without the site, Mr. Hulbert pointed out, would have to be supplied by the city. This item is estimated at $17,000.

The proposed playground will consist of swimming pool, wading pool, covered sand pits, playground apparatus and six baseball diamonds. The plan of the donor is to have the use of the playground restricted to children not exceeding 14 to 16 years of age, and so subdivided that there will be no interference between the older children and the children of tender age. The possible use of the swimming pool and baseball diamonds after certain hours by persons above the ages of 14 and 16 may be found desirable, and to this the donor is prepared to agree.

In his letter making the offer, the donor made this comment:

> My chief object in making this proposal is that the establishment of a playground will not only take the children off the streets and minimize street accidents, but in affording them opportunities for recreational pursuits will build up their bodies, and the experiment will, I am sure, prompt and encourage the construction of other similar playgrounds throughout the city.

In a formal statement Acting Mayor Hulbert made a plea for more playgrounds. He said in part:

> The necessity for the establishment of adequate playgrounds, upon which all forward-looking citizens agree, has engaged my attention since I have been in public office. The concentration of population in restricted areas, the inevitable congestion ensuing, and a recourse to the utilization of at least 90 per cent. of a building lot for dwelling house construction, have sounded the death knell of the breathing spaces about the homes where the density of population is not so prevalent.
>
> We have seen the front yard disappear in the capacious maw of steel and stone, and the protected area of the back yard is becoming less and less visible. But the children must play. When the front and back yards are denied to them they rush into the streets. The indulgence of natural play impulses in streets jammed with rapidly moving vehicles is not only dangerous but retarded because of the ever present dangers. The establishment of play streets under police supervision has thrown a needed protection about the children, but it must be admitted that it is an inadequate palliative for the evil to be cured.

GOVERNOR PINCHOT AND THE PENNSYLVANIA SCHOOL SYSTEM

GOVERNOR PINCHOT, addressing three thousand members of the Pennsylvania State Education Association in Philadelphia, stated that he has "less than no use for politics in the schools" and he promised that "the use of the Pennsylvania school system as a personal or political machine, of which we have had many examples," will "be guarded against with every power this administration has."

Pennsylvania will take no backward step in education, the governor said. "That is a matter of course, but it is not enough. Pennsylvania must go thoughtfully, intelligently, vigorously forward. The best is none too good for the children of this commonwealth."

> First of all, we must have a single unified system of public schools in Pennsylvania, of which the Department of Public Instruction at Harrisburg shall be the real head. If it falls to the level of a mere clearing house and bureau of suggestions, it will have failed. On the other hand, if it becomes a centralized machine, absorbing the proper functions of the individual localities, then equally it will fail. In the last analysis, our progress in education depends, more than on any other single thing, upon the interest, initiative and direct participation of each local community in its own school affairs throughout the commonwealth.

Four things were set forth by Governor Pinchot as necessary for the success of the Pennsylvania public school system: A sound, advancing, modern plan; "adequate equipment of school houses and all the material of instruction," teachers "thoroughly and soundly trained, adequately paid, and effectively stimulated to continuous self-improvement"; and "fourth, and the most essential of all, convinced and enthusiastic public support for the foregoing three."

Governor Pinchot said that the greatest task and most urgent need in Pennsylvania lie in the problem of elementary education.

> Apparently the emphasis which has recently been placed upon higher education and upon special types of education has resulted in failure to give

elementary education the attention which it so plainly deserves. Without neglecting any phase of education, it is clear that the education of the masses must have the right of way in a democracy. The vast majority of our 1,800,000 pupils are found in the elementary grades. Their rights come first.

The mere enactment of laws governing the schools is not enough. It is often harder to enforce them than it is to pass them. I take my stand squarely behind the laws relating to the preparation, certification and employment of teachers, the standardization of the school term and the compulsory attendance of pupils. The administration proposes to do its utmost to see that those laws are enforced.

Pennsylvania has made progress in public education—real progress—but we can not let it go at that. We are not yet at the head of the states in our common schools. That is where we belong, and before we are through that is where we are going to be. The man who proposes to stop short of that place is no friend to the school children of Pennsylvania.

The association, at its closing meeting on December 28, passed a resolution endorsing the general message of Governor Pinchot.

EDUCATIONAL NOTES AND NEWS

DR. WILLIAM ALLAN NEILSON, president of Smith College, was elected president of the Modern Language Association at the recent Ann Arbor meeting.

EZRA LEHMAN, of the Shippensburg State Normal School, was elected president and Superintendent John C. Diehl, of Erie, was elected vice-president of the Pennsylvania State Education Association meeting in Philadelphia at the end of December. James Herbert Kelley continues as executive secretary of the association.

AT the recent annual meeting of the National Council of Teachers of English held in Detroit about two hundred members were in attendance. Thos. C. Blaisdell, professor of the teaching of English in the State Normal School at Slippery Rock, Pa., was elected president for the coming year, while W. Wilbur Hatfield, of Chicago Normal College, was continued as permanent secretary. If satisfactory plans are completed by the local council, the next annual meeting will be held in St. Louis, in November, 1924.

L. H. DENNIS, director of the Bureau of Vocational Education of the Pennsylvania State Department of Public Instruction, was elected president of the National Society for Vocational Education at the annual convention in Buffalo.

DR. WINNIE M. SANGER, medical inspector of the Oklahoma City public schools and formerly secretary of the Oklahoma Teachers Association, has been elected president of the Oklahoma State Federation of Women's Clubs for the next two years.

WE regret to learn that Dr. Edward P. Cheyney, professor of European history in the University of Pennsylvania, has been seriously ill with pneumonia at Columbus, where he presided over the recent meeting of the American Historical Association.

CHAIRMEN of the local committee for the Department of Superintendence meeting at Chicago, February 23 to 28, are as follows: General chairman, Peter A. Mortenson, superintendent of schools; committee on entertainment, Rose A. Pesta, president, Chicago Principals' Club; committee on publicity, Charles D. Lowry, district superintendent of schools; committee on transportation, Albert W. Evans, principal, Wendell Phillips High School.

DR. L. E. DICKSON, professor of mathematics at the University of Chicago, has been awarded the prize of one thousand dollars of the American Association for the Advancement of Science, for a notable contribution to science presented at the Cincinnati meeting.

THE Edison Medal for 1923 will be awarded to John W. Lieb on the occasion of the celebration of the fortieth anniversary of the American Institute of Electrical Engineers, which will take place at the Philadelphia meeting beginning on February 4. The new Moore School of Electrical Engineering of the University will be dedicated on the afternoon of February 6.

KARL F. WETTSTONE, of St. Louis, was inaugurated president of the Presbyterian University, of Dubuque, Iowa, on January 1, succeeding Dr. Cornelius M. Steffens, who became president-emeritus after serving as president for over twenty years.

M. E. LIGON, principal of the High School,

Ashland, Kentucky, has been appointed professor of education at the University of Kentucky to succeed Professor McHenry Rhoads recently elected superintendent of Public Instruction of Kentucky. Professor Ligon is a graduate of the University of Chicago. He has had experience in the public schools of Kentucky as teacher, superintendent and high school principal.

ARTHUR D. WRIGHT, professor of education in Dartmouth College, will teach this year in the summer school of George Washington University, Washington, D. C.

A. J. LYNN, who has been an instructor in accounting in the School of Commerce of the University of Chicago for the past three years, has been appointed dean of the Collegiate Department and director of the extension courses of the Bowling Green Business University, Kentucky.

AT a special meeting of the Board of Trustees of the Sheffield Scientific School, George D. Watrous, '79, of New Haven, was elected a member of the board to fill the vacancy caused by the resignation of William W. Farnam, '66. Dean Charles H. Warren was elected president of the board, and Professor Treat B. Johnson, secretary.

GOVERNOR WILLIAM SWEET, of Colorado, has appointed Horace F. Lunt, of Colorado Springs, as a trustee of the Colorado School of Mines.

MISS E. M. ALLEN has resigned the office of vice-mistress of Girton College, Cambridge, but retains the post of bursar. The council has appointed Miss H. M. R. Murray, director of studies in English, to the office of vice-mistress.

THE Liverpool Psychological Society has been inaugurated under the presidency of Professor Alexander Mair, M.A., of the University of Liverpool, supported by Dr. Betts Taplin as vice-president and an influential committee. The society intends to pursue the systematic investigation of the recent developments of the science.

DR. HENRY A. STRECKER was appointed on January 1 medical director of private schools of Philadelphia, at a salary of $4,000 a year. Dr. Strecker will supervise the work of fifteen physicians who will make inspections, on behalf of the city Bureau of Public Health, of all schools in Philadelphia not under the direction of the Board of Education.

MAJOR H. B. HICKMAN, former superintendent of the Kentucky Houses of Reform at Greendale, Ky., has been appointed superintendent of the Boys' School at Glen Mills, Pa., succeeding F. H. Nibecker, who is withdrawing because of ill health after 32 years of service. The Glen Mills school was originally the House of Refuge, established in Philadelphia in 1826. It was probably the first school in the country to employ the cottage system in the treatment of delinquent children.

L. P. BIERLY, supervising principal of West Pittston, Pa., retired on December 1 at the age of 62. He is succeeded by R. J. Templin, who formerly taught mathematics in Lafayette College and in Williamsport high school.

JOHN C. BURNS is the newly elected superintendent of schools at Dustin, Oklahoma, succeeding O. M. Corbell.

DR. W. C. COVERT, of Chicago, has become general secretary of the Presbyterian Board of Christian Education, with headquarters in Philadelphia.

WILLIAM R. DICK, secretary of the Board of Education of Philadelphia, was given the additional position of business manager at a recent meeting of the board. His total salary is $10,000. The salaries of associate superintendents, district superintendents and directors of special departments were increased $1,000 a year.

MRS. MARY GLYNN, sister of Governor Alfred E. Smith, has been named a member of the local school board for the Twenty-seventh District in Brooklyn, N. Y.

DR. EDWIN W. KEMMERER, professor of economics and finance at Princeton University, has accepted the post as adviser to the three American members of the German inquiry committees. He sailed for Europe on January 6. Dr. Arthur N. Young, a former student of Professor Kemmerer's and former member of the Princeton faculty, has also been ordered to Paris to be associated with Colonel Logan, the American unofficial observer with the Reparations Commission.

DR. R. R. REEDER, for the past three years

overseas commissioner of the Serbian Child Welfare Association of America, sailed for Serbia and the Near East, on December 30, on the S. S. *America*. He will spend three weeks at Belgrade, inspecting the progress made by Serbians in continuing public health and child welfare work turned over to them a year ago by the association. Training of the Serbian nurses continues under direction of American nurse training teachers. Dr. Reeder will go to Athens on February 1 for the Near East Relief administration to make a two months' survey of its constructive orphanage work in Greece, Syria, Palestine and Armenia.

DR. ERNEST M. PATTERSON, professor of economics at the University of Pennsylvania, has left for a short trip to Germany, where he is to make a special study of the condition of German children, with particular reference to their nourishment and physical condition.

DR. HAVEN EMERSON, of Columbia University, sailed on December 15 for Berlin, to obtain first-hand information concerning the situation there. Dr. Emerson went at the invitation of the American Friends Service Committee. He will visit Breslau, Chemnitz, Düsseldorf, Cologne and parts of the Ruhr region to observe the condition especially of children in the hospitals and schools.

GIOVANNI PAPINI, the Italian author, will lecture at the Columbia University summer session next summer, according to an announcement of Professor John L. Gerig, executive officer of the Columbia department of romance languages: "Signore Papini will lecture five days a week for the period of the summer session. In order to place no limitations whatever on what he might have to say we have entitled his lectures 'Contemporary Italian Thought.'"

PROFESSOR W. C. BAGLEY, of Teachers College, Columbia University, addressed the recent Superintendents' Conference at Harrisburg, Pa.

DR. L. A. PECHSTEIN, dean of the College of Education of the University of Cincinnati, was the principal speaker at the annual dinner of the Schoolmasters' Club, at Rochester. His subject was "Striving without succeeding."

DR. R. TAIT MCKENZIE, director of the department of physical education of the University of Pennsylvania, was one of the speakers at the meeting of the Contemporary Club on December 10, at which there was discussed the subject, "Are athletics being overdone in our colleges?"

JOHN BASSETT MOORE, Hamilton Fish professor of international law and diplomacy in Columbia University, has been appointed Marfleet lecturer at the University of Toronto, where he will lecture in October. The Pearson Kirkman Marfleet lectureship was established at the University of Toronto in 1910 by Mrs. Lydia A. Marfleet, of Prophetstown, Ill., in memory of her husband. Every four years a distinguished scholar is chosen to lecture on some phase of the national movements of the United States and Canada.

THE Christmas Juvenile Lectures at the Royal Institution are entitled "Concerning the nature of things," and will be given by Sir William Bragg. The first of the series, on December 27, was on "The atoms of which things are made."

PROFESSOR ROBERT E. WILSON, dean of men at Northwestern University and associate professor of mathematics there, died on December 30, after a lingering illness. Transfusion of blood from two members of the faculty, Professor Phillip A. Fox and Professor E. J. Moulton, failed to bring more than temporary relief.

A FOURTH Commercial Education Conference will be held by the United States Bureau of Education at St. Louis, Mo., on January 16, in connection with the annual meeting of the Vocational Education Association of the Middle West. Dr. Glen Levin Swiggett, of the bureau, is chairman of the conference, and the speakers will include Arthur H. Carver, of Swift and Company, Chicago; R. G. Walters, Grove City College; Emery Filby, University of Chicago, and Leverett S. Lyon, University of Chicago. The general topic will be "Commercial occupations: Preparation and placement."

MARION L. BURTON, president of the University of Michigan; Henry N. MacCracken, president of Vassar College; Frederick Carlos Ferry, president of Hamilton College; Walter D. Scott, president of Northwestern University; Herbert E. Hawkes, dean of Columbia College, and Henry S. Pritchett, president of the Carnegie Foundation for the Advancement of

Teaching, were announced among the speakers at the tenth annual meeting of the Association of American Colleges held at the Hotel Astor on January 10, 11 and 12. Representatives of 300 colleges were expected to be present. Preliminary to this convention meetings of the Council of Church Boards of Education, the Presbyterian College Union and the National Lutheran Educational Conference were planned.

THE National Association of Principals of Schools for Girls will hold its annual meeting in Chicago on February 22 and 23, with headquarters at the Drake Hotel. The business meeting with full reports will be held on Friday morning, the conference with official representatives of colleges and universities on Friday afternoon. On Friday also there will be a luncheon, and a members' dinner. Saturday will be devoted to a business meeting and informal discussions.

THE fourth annual convention of the Central Interscholastic Press Association, held at the University of Wisconsin on November 30 and December 1, is said to have been the largest journalistic gathering that ever assembled anywhere, 761 delegates being present from 171 schools in 18 states. The organization sponsored by the school of journalism of the University of Wisconsin was established at Madison in April, 1921.

THE Triennial Imperial Education Conference will be held in London from July 14 to 19, under the auspices of the League of the Empire. It is expected that representatives of both the English and Scottish education departments will be present. Among the universities that have promised representation are: Cambridge, Oxford, University of London, Edinburgh, Birmingham, Manchester and St. Andrews. The last conference was in Toronto in 1921.

THE death of the donor of funds for the support of the National Institution for Moral Instruction, under the directorship of Dr. Milton Fairchild, will not interfere with the plans of the institution. His widow will continue to contribute $1,000 a month for its expenses.

CHARLES CURTIS HARRISON, former provost of the University of Pennsylvania, has given the university museum an additional $20,000 to be used in constructing a new wing to the east end of the present building.

DURING the past ten years the student enrollment of the University of the City of Toledo has increased from approximately one hundred and twenty-five to almost twelve hundred students, and the financial support from the city has been increased from approximately $30,000 to $200,000.

DR. JOHN W. HANCHER, counsellor in finance to the Board of Education of the Methodist Episcopal Church, states in his annual report that a total of $9,770,000 in pledges had been secured out of a total of $9,800,000 that had been asked for. This sum was raised from September 1, 1922, to August 31, 1923, for the following institutions: College of Puget Sound, Dickinson College, Pennington Seminary, Flower Hospital, Illinois Bi-Conference Movement and the Illinois and Central Conferences, the Michigan Methodist Educational Advance, Willamette University, Simpson College and Wesley College.

BUCKNELL UNIVERSITY has received a gift of 250 acres of Virginia land, valued at $30,000, from Henry J. Loftus, of London. This land, which borders upon the several hundred acre tract recently conveyed to the University by Dr. James S. Swartz, of New York City, for forty years chairman of the board of trustees, is situated in Fairfax County, Va., between Washington, D. C., and Washington's home at Mount Vernon. Other large gifts received by Bucknell during the year were $500,000 for a new stadium, $400,000 from the alumni for the Endowment Fund, and $250,000 from the Rockefeller General Education Board.

AT recent exercises in connection with the opening of the new gymnasium at Willamette University, Dr. B. I. Steeves, president of the board of trustees, called attention to the development of the university within the past five years. In this period a $150,000 woman's dormitory was built; Waller Hall, damaged by fire, was rebuilt at a cost of $70,000 and the gymnasium costing $100,000 was construeted. The student body was doubled in numbers in five years.

A $100,000 law building will be dedicated this month at Ohio Northern University, Ada, Ohio, in honor of Warren G. Harding. The College of Law will hereafter be known as the Harding College of Law.

TEACHERS of history, civics, biologic sciences, psychology and home economics may compete for the two prizes of $500 each, awarded for a satisfactory study by groups of at least ten pupils on the subject "Racial well being, the educational ideal." The study must not exceed 7,000 words, must have a pen name and be accompanied by a sealed envelope containing the sender's name and address. Four copies should be sent to Ida P. Greeman, 1022 Hospital Trust Building, Providence, Rhode Island, before April 15, 1924. Successful studies become the property of the committee.

ESTABLISHMENT of real estate courses in colleges and universities was urged at the recent convention of the New Jersey Real Estate League, at Atlantic City, by George H. Morse, of Boonton, president of the organization. He said Princeton and Rutgers had already given encouragement to the idea in an exchange of correspondence.

THE United Parents' Associations of Greater New York Schools announces that the project of organizing a parents' association in each of the schools of the city has the endorsement of Superintendent of Schools William L. Ettinger.

TEACHERS in the New York City public schools are to have a sabbatical year with pay after 10 years of service, according to the Board of Superintendents, which has passed a resolution to that effect. The resolution is as follows:

Upon the recommendation of the board of superintendents, the board of education may grant leave of absence with pay to members of the teaching and supervising staff for the purpose of study, travel, or rest, for a period not exceeding one year.

A leave of absence for study or travel may be granted at the completion of 10 years of continuous satisfactory service in the public schools of the City of New York, and at the completion of any subsequent period of 10 years of continuous satisfactory service. Such leaves of absence shall take effect at the beginning of either school term. A leave of absence for rest may be granted at the completion of 20 years of satisfactory service in the public schools of the City of New York, and after the completion of any subsequent period of 10 years.

Leaves of absence with pay may be granted for study, travel or rest, to the superintendent of schools and associate or district superintendents by the board of education.

SPECIAL CORRESPONDENCE

PEDOLOGY AT MOSCOW AND RUSSIAN-AMERICAN EDUCATIONAL COOPERATION

THE prophecy of the well-known writer, Ellen Key, who called the twentieth century the "century of the child," one must admit is being wholly fulfilled, especially in relation to the new life in Russia, where the period of destruction is giving way to the period of creation.

Generally, mankind submits to the primal law of nature which dominates especially in the plant and animal worlds—the law of the struggle for existence. This universal law of the biological evolution, of physical and psychical development of all life, as expounded by Darwin, seems to dominate also in the social life of mankind, appearing to be the main force, the chief lever of all human culture; of technical progress and material wealth, of physical health and mental treasures. In the ceaseless struggle for existence, in the untiring search for a better, "happier" life lies the principal cause of violent human passion *in every domain of social life, without exception*: in the domain of economics, politics, religion, science; in the arts, in literature, in sports, in the family, in the relations between man and woman, etc. In some countries, as for instance to-day in Germany, one finds many literary works of mystic character presuming to penetrate the realm of the Unknown through psychical phenomena. Great numbers of people turn to this literature to learn the cause and solution of human misery and failure, and to find the key to personal success. From this mystical source every layer of intellect draws inspiration. From these "secret sciences," such as occultism, spiritism, theosophy, etc., is born the inclination to turn to mysterious methods of treatment, providing a rich field of activity for various types of charlatanism, quackery and general non-scientific and anti-scientific practices. There are not a few who foist upon the people even in the highly developed countries, in the place of exact knowledge, adulterations and falsifications covered with a fig-leaf of scientific terminology and imagined theory imitating science.

As a counter-balance to the above-mentioned negative social phenomena, which perhaps are showing the ideological degeneration of the metaphysical world-conception, in contemporary society a healthy current is gaining

strength which seeks a point of support in strict scientific knowledge—a current in the domain of the struggle against social misery, disease and suffering; as, for example, premature old age, defeat of mental forces, physical degeneration and other general manifestations of unfitness for the social environment. The last European war and the Russian revolution, together with the great epidemics, famines and other social calamities of the past few years gave birth to masses of destitute children afflicted with various types of physical and psychical degeneration, child criminality and sexual vices and perversions which present a social phenomenon that threatens to undermine the physical and mental health of the growing children, the coming race—threatens degeneration, in fact, to the whole of mankind. The alarming increase of nervous and mental diseases is everywhere observable, especially in the larger centers. In view of their great receptivity and impressionability, children fall ready victims to infections carried by adults and to such vices as excessive use of tobacco, drinking, gambling, tendencies to speculate, to sex perversions and criminal inclinations. Mankind generally does not perceive a great danger when it threatens. Vanity often diverts the attention. Not alone is there failure to take measures against these dangers in the great civilized countries, but the people, on the contrary, create added danger by protecting numerous artificial abortions, by disturbing the hygiene of the prospective mothers, or by incorrect child-education from birth.

In recent years, in the domain of natural and medical science, a new problem appeared: that of race regeneration by way of physical and mental treatment of the child from the moment of its conception. To meet this problem, a strict natural science, called in Russia pedology, came to birth in America. The noted American pedagog-biologist, Stanley Hall, was a pioneer in this field of biological-hygienic pedagogy and the propagandist who spread the idea and caused the establishment of new schools, becoming an inspiration not only to scientific and social workers at home, but also to similar workers in many countries of Europe. The ideas of pedology were transplanted to Russian soil where they flourished, received further theoretical and practical development and bore new fruit. During the last four years there is functioning in Russia, beside numerous pedological-educational centers, a special college for the creation of new specialists in the field of child hygiene, education and eugenics. These specialists, when graduated, will be distributed throughout Russia as organizers, instructors and directors of such institutions as Houses of Mothers and Children, Baby Gardens, Kindergartens, Children's Cities, Homes and Colonies, Physical Culture Schools, Schools for Esthetics, Technical Education, etc., for gifted children manifesting special talents or aptitudes in the different arts, crafts and sciences. Also, schools for the mentally and morally defective children and for the nervous and unbalanced, those educationally difficult of treatment, are being organized in accord with the scientific directives of this new strict natural science, pedology or biological-hygienic pedagogy.

The principal aim of this discipline is to study by means of natural-scientific methods the laws of physical and mental child development, determine inherent predispositions and capacities, and aid in their complete blossoming and fruition; to generally discover individual characteristics and tendencies and recommend fitting instruction that will aid the child in his choice of a future profession; that will develop in him knowledge of the art of living, of growing stronger and healthier, of lengthening the life-span, of abolishing the tendencies to premature old age and of the deterioration of the human organism. Pedology is closely bound up with the question of *rejuvenation*, of discovering the laws that will create a healthy, beautiful, long-living creative human race with fully developed social instincts. Thanks to these instincts, egoistic characteristics will give way to man's love for nature which, with common solidarity, will become the chief lever in personal and social life and the tendency to personal gain at the cost of other members of the human family will disappear. In this manner, the purposes of *pedology* become confluent with the aims of social eugenics. Separated from the sphere of political passions, this new discipline, during its broad development, will help mankind to pass through its physical and mental temporary crises.

We are obliged, therefore, to build a strong foundation of theoretical and practical social pedology. An international pedological asso-

ciation should be created which will attract to itself scientists, philosophers, psychologists, physicians, pedagogues and various social workers. In the United States of America this science was born and vitally developed. In Russia to-day are conducted theoretical and practical researches in this field. Russian-American approach on this ground would undoubtedly prove of great service to mankind. The work in Russia of the American Relief Administration in feeding Russian children laid the foundation for the development of intellectual American-Russian connection. The creation of a Russian-American Pedological Society, as a section of the International Pedological Association, with the purpose of cooperation for the regeneration of the Russian children, will cooperate at the same time for the regeneration of the whole human race.

During the past several decades in Russia, thanks to the great interest of the Russian psychiatrists and school-hygienists for educational problems, having adopted the ideas of the new American pedagogical movement, initiated by Professor Stanley Hall and his followers, and especially expressed in the activity of the American Child-Health Association under the name of health-education, there has come into existence, as I have already told, a new, strict, natural science dealing with the child, called pedology, from the Greek word *pedo*, the child. Well, pedology, as we understand it, is the natural, scientific, exact study of the child. It aims to create a clear understanding of the child's physical and psychical development and to rebuild and perfect the child, bodily and mentally.

The common method employed in this branch of science is the same as in other exact sciences; as, for example, in physics, chemistry or biology. Once we have learned the nature and content of this science, we shall know the correct answer to the problem of child education, that is, the problem of social pedagogy from the biological viewpoint.

Why has this new science dealing with the child been brought into existence when there already exist various natural sciences dealing with the same problem, as, for instance, child anatomy, child physiology, child psychology, child education, etc.? This question must be answered.

Discussing with me the question of pedology, some psychologists in the Medico-Pedological Institute in Moscow expressed the opinion that it is no special science—merely a collection of various sciences dealing with the child. I maintained (and I am sure it is easy to prove) that pedology is an independent, strictly scientific system, with its own specific outlook and methods, and that all the questions dealt with in pedology are connected vitally and genetically, even as are the different parts of a complex but single organism. Every organism must be regarded as a whole and all its functions as strictly bound by logical links—logical, not in the sense employed by psychologists and philosophers of various idealistic schools with subjective and metaphysical bias, but as understood by the strict scientists, the logic arising from the nature of the objective facts themselves.

In this report I shall attempt to throw light upon the problem of social education on a biological basis by dealing with the many-sided aspects of the child problem. First, we must understand what exactly is scientific education. As for a long period in medicine empirical methods dominated, so in education the practical pedagogs dominated—or, those theoreticians who took their views from the metaphysical psychologists and philosophers. Scientific pedagogy, on the contrary, is based on natural scientific methods of investigation as are, for instance, physical, chemical, physiological, anthropological, pathological, etc. The aim of pedology is *the complete development of the personality;* healthy, beautiful, many-sided, long-lived, creative; *perfectly adjusted to a wholesome social environment.*

Within the past two or three decades there has strongly developed a new science—genetics—which aims at perfecting of the living organism. Genetics is a technical science. Its main sections are phytotechnics and zootechnics; the perfecting of plants and the perfecting of animal life. The special, substantial section, anthropotechnics, came to be called eugenics. But modern eugenics is not quite developed to a social science which concerns itself with technical, economic and ideological human culture. Social eugenics is based on social hygiene.

Social pedology then, as a science of mass education, stands in intimate relation both to

social hygiene and social eugenics. When we speak of social hygiene, we do not separate the psychical from the physical, but we have in mind the many-sided restoration of man's personality and of human society. It is a scientific monistic principle, opposed to the metaphysical viewpoint which sharply separates body and spirit. Furthermore, it is necessary in such a strict science as pedology to give strict definitions of the principal terms and ideas used, just as in mathematics and physics, where all terms and ideas are strictly confined.

Well, what are these terms and ideas in pedology? The first idea is that of the child. We are obliged to define this idea as strictly as are defined physical and mechanical ideas. The second idea is that of the analysis of the child's many-sidedness (complexity); that is, the subject of pedognostics. The third is the idea of the natural scientific basis of education; that is, the subject of pedotechnics or social pedoeugenics. These ideas are generally understandable to pedagogues but, we must repeat, the strict sciences demand strict formulation of their ideas, and pedology is a strict natural science.

(1) The objects of the socio-biological, evolutionary (in the sense adopted in natural science), or *pedological school* are: The comprehensive study and scientifically based education of the child on the common foundation of the modern monistic conception, which does not separate the physical from the psychical, as well as matter from force, in accordance with the new ideas in physics concerning the theories of energy.

(2) The aims of education in the above sense are inseparably connected with the aims of social hygiene and social eugenics, a connection which defines the principal line of school reform on a biological basis.

(3) The object of education, the child, is a dynamic process of development of the personality from the moment of conception to the time of its complete maturing at the age of puberty determined by the internal progressive tendencies. This definition is in accord with the theory of biological evolution.

(4) The unfavorable conditions of social environment change the true direction of the inner tendencies in the process of child development away from strength and towards weakness, from perfect blossoming towards degeneration. The intimate connection between normal and pathological phenomena are observed in the process of studying the child and educating it.

(5) The whole epoch of the growth and development of the child is characterized by the instability, the rapid metabolism of its physical balance which is especially connected with the function of the organs of internal secretion and first of all with the sexual glands. It is, therefore, rational to divide childhood into different periods marked by the critical moments of the functions of the endocrine system and, consequently, with the critical moments of sexual development.

(6) Provisionally, for practical purposes, we can fix the following periods of childhood: (1) The period of intra-uterine life, which ends with the critical act of birth; (2) the nursing period, when the child is at the mother's breast till, approximately, the end of the first year. During this period the sexual hormones of the mother influence the child through the milk; (3) the first kindergarten period or the period of early childhood, approximaately from one to three years of age; (4) the second kindergarten period, or the period from three to six or seven years of age; (5) the first school period, from six or seven to twelve or thirteen years of age; (6) the second school period, from twelve or thirteen to sixteen or seventeen years of age, or the period of the perfecting of sexual psychophysical differentiation; (7) the period of sexual maturing, from sixteen or seventeen to twenty years of age (approximately), and (8) the last period, individually of varying length, that of the complete development of the natural gifts of the growing child.

(7) The many-sided study of the child as an unfolding personality consists in strictly defining and scientifically basing all characteristic traits of the child's development. The most important of these traits are the following: (1) The genetic connection of the dynamic process of child development during its personal existence from the moment of its conception with a similar process of the development of manhood during its biological evolution. This is a cardinal biogenetic law of Haeckel-Mueller adapted to the theory of studying and educating the child; (2) the genetic connection of the individual development of the personality with the social develop-

ment of the human collectivity—this is the ideological side of the law of Haeckel-Mueller; (3) the genetic connection of the physical development of the personality with its psychical development in all the periods of childhood—this is the law of the correlation of the physical and psychical signs of a developing personality; (4) the law of the instability of the psycho-physical development of the personality, that is, change in the balance of functions, some growing weaker, others more pronounced—practically, it results in the increased capabilities or varying transitory anomalies in varying degrees between the normal and pathological state; (5) the law of the instability of sex, that is, the genetic connection of the masculine and feminine sex of the personality, with the transitory and Mosaic forms (masculism, feminism, hermaphroditism) in various degrees and combinations; this point concerns inseparably both physical and psychical characteristics of the personality; (6) the law of the genetic connection of all signs of the developing personality with the signs of its relations in ascendant and lateral lines, that is, heredity in the light of the newest genetics and of Mendelism applied to man; (7) the law of the influence of social environment on the development of personality—the genetic connection of endogenous and exogenous factors of the development of the personality; (8) the reflexological principle of the development of all mechanisms of the orientations of the personality, the compound reflective activity as the material basis of the development of the psychical phenomena of the growing child; (9) the inseparable connection of both kinds of scientific activity—(a) the study, (b) the education, of the child. The study consists in the strict definition of the character of various reactions of the developing child, the education consists in the purposeful regulation of the determined reactions of the child, in the interests of the planned organization of the relation of the developing personality to the social whole from the social-economic viewpoint. To regulate the reactions of the personality of the child is possible principally by example and not by pedagogical instruction and pedagogical compulsion (the system of punishment), but first of all by the regulations of all conditions of the social environment. Therefore, rational education is inseparably connected with the rational construction of the social life. School reform, educational reform, on a biological basis (that is, on the principle of the modern monistic conception) is the only scientific reform.

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DISCUSSION

WHAT IT COSTS TO-DAY TO GO TO COLLEGE

BEFORE the war many colleges made it a custom to include in their catalogues a rough estimate of the annual cost of attendance of the average reasonably economical student. A few have tried to maintain the custom, but the estimates given in such cases have proved quite absurd, because the college is caught between the dislike to admit the heavy expense now necessary and the conviction that the cost of living, etc., has assumed an entirely new level. It was with this situation in mind that the writer made a quick investigation into the average annual cost of attending Dartmouth College, and he believes the results would be of interest both to officials and parents of students of other institutions.

The data given here were collected so easily and quickly that the method will be explained briefly in hopes that similar investigations will be made at other institutions which would serve to check the results given here or to show what college is relatively expensive or economical, as the case may be. The writer confined his investigation to that of the expenses of fraternity men in order that he might make use of those organizations. He selected a representative from each fraternity who was known to be energetic and reliable and gave him an ordinary but self-addressed postal card. The representative was asked to see as many of his brothers as possible and secure a record on the card of their individual estimates (by classes and *without names*) of their total annual expenditures which would naturally be associated with their attendance at college (*i.e.*, including clothes, transportation, etc.) and mail the card. The writer was able to select representatives who were at the same time either in his classes or otherwise easily available so that their services were easily acquired in a single day. These representatives were requested to complete their canvass within the following week, and as the canvass was made only during the last ten days of the college year the estimates of the freshmen were also ob-

tained. Nearly all the information was actually turned in in about four days and the canvassers found the work highly interesting and illuminating. The final results are given in reduced form. There are included also similar results obtained about 15 years ago at the University of Illinois and published in *Science* (Dec. 23, 1910) which contrast remarkably with the results given here for the first time. In comparing the two distributions it should also be kept in mind that food, etc., would be furnished in Illinois more cheaply than in New Hampshire. The data offered here are also given by classes, but since not quite all the data received were given according to classes the totals can not be expected to check.

	Illinois	Dartmouth				
	1908–9	1922–3	'23	'24	'25	'26
$ 400	30	—	—	—	—	—
500	100	—	—	—	—	—
600	71	1	—	—	—	1
700	39	1	1	—	—	—
800	13	9	—	3	3	3
900	12	27	4	6	10	7
1000	10	76	18	12	21	22
1100	4	65	15	13	16	17
1200	3	93	27	18	17	28
1300	1	62	14	15	16	15
1400	—	61	15	13	13	13
1500	1	59	18	17	11	9
1600	—	25	8	6	1	8
1700	—	20	5	4	3	2
1800	—	21	3	4	5	4
1900	—	6	3	2	1	—
2000	—	19	3	6	9	1
2100	—	4	—	—	3	—
2200	—	6	3	1	1	1
2300	—	4	—	2	2	—
2400	—	—	—	—	—	—
2500	—	9	2	2	1	3
—	—	—	—	—	—	—
3000	—	1	1	—	—	—
	284[1]	569	140	124	133	134
Averages	$608	$1342	$1360	$1348	$1332	$1268

It will be noticed that the averages exceed the modes from a little less than $100 to a little over $150. It will be noticed also that the average expense seems to increase slightly from freshmen to seniors, but probably no more than one would naturally expect. In any case the averages by classes seem to be stable and, of course, far exceed that of 14 years ago. When we consider that Dartmouth is far removed from city life and its attractions and expenses these averages should probably be regarded as very conservative estimates of the annual cost of attending college—at least in this part of the country—even though the students considered belong to fraternities. Parents of to-day are frequently heard to complain of the extravagance of their sons at college. In the light of these averages it is a fair question whether the parent in such cases is making sufficient allowance for the great increase in the cost of living, etc. It would be especially interesting to compare similar results obtained from a girls' college.

[1] Also fraternity men.

C. H. FORSYTH

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QUOTATIONS

1923 IN REVIEW

SOUND and adequate education of the masses is the rock upon which democratic society must be built. Renewed and widening recognition of this fact in the face of the chaotic condition of world affairs is the most significant educational achievement in the United States during 1923. Educational workers may take stock of resources and make plans to direct the educational advance during 1924 with the assurance that back of the vast amount of writing and talking on education, there is profound faith in the American public school on the part of people generally. Reactionary movements here and there have tested the courage of educational workers and the devotion of our people to the schools. On the whole there has been steady and substantial progress.

The National Education Association has grown in membership. Its departments and committees have become more active. The various headquarters divisions are stronger. The association has become the greatest publisher of educational literature in the world. The adjacent buildings purchased last year have been remodeled and connected with the main headquarters building on Sixteenth Street. The association had a remarkable series of meetings in Oakland-San Francisco and has plans well along for an even greater meeting—a veritable crusade of teachers to the Nation's Capital in July, 1924.

State and local associations have continued to strengthen their services and their organiza-

tions. Many victories were won in the forty-four state legislatures that met during 1923. Ground gained in previous years was generally held and new advances were made in spite of unusual economic depression.

The Department of Superintendence held in Cleveland a meeting that was unusually well-planned and attended. A revival of interest in the study of the curriculum was there started and is being carried on by a strong committee. The objectives of education are being more clearly defined and the methods of reaching those objectives are being refined and strengthened in the light of scientific study of educational problems.

Professional unity has been much in evidence during 1923. Educational workers have stood solidly together. Individual differences and group differences have been subordinated to the larger cause to the great credit of the profession and the advancement of education.

The World Conference on Education, held in San Francisco under the auspices of the National Education Association, stirred both the profession and the public to a larger appreciation of education's part in world affairs. Provision for world-wide observance of Goodwill Day on May 18 of each year, the tentative organization of a world federation of education associations, and the adoption of statements of policy on many important matters laid the foundation for a closer integration of the efforts of educational workers throughout the world.

The Education Bill has gained added support. It is now plain that the great group of national, state and local organizations—both lay and professional—that have indorsed this measure, will stand firm to the end. It is only a matter of time until the rising tide of public opinion will force Congress to recognize the justice of the bill and the necessity of the policies which it embodies.

Education Week was observed with striking success. The program was issued in the spring and plans went forward during the summer. The proclamations of the President and of mayors and governors make an imposing exhibit. Hundreds of special programs and bulletins were issued by school officers in states and cities. The public studied the basic problems of education as never before.

Teacher-training made notable improvement. Probably over a fourth of the nation's teachers attended summer schools. Such reports as are available show increased enrolment in teachers' colleges and normal schools. Added pay for added training continues to win its way as a wise administrative policy.

School building programs of enormous magnitude are under way. Most of the larger cities have a serious shortage of school seats. Half a million children are in school on half-day sessions for lack of accommodations. The causes are rapid growth of city populations and the cessation of building during the war. It is gratifying to see conditions steadily improving, although here, as in teacher training, vast improvement will be required to bring the nation up to recognized standards.

Magazines and newspapers have never before given so much space to education as during 1923. Several magazines of great influence and circulation have made the promotion of education one of their primary objectives. There has been less attempt at "jazz" publicity for education and more sound reporting of basic educational needs and achievements.

Classroom-teacher participation in professional organization and in the determination of courses of study and school policies is bringing new initiative and interest to the rank and file of American teachers. Along with larger opportunity is coming the willingness to make more thorough preparation and to assume greater responsibility.

Other evidences of educational advance during 1923 need not be mentioned here. There is room for rejoicing that this year of reaction has affected the schools so little. Perhaps by 1925, when most legislatures will again meet, the peak of reaction will have given way to an intelligent popular appreciation of the need for larger investments in education all along the line.—*The Journal of the National Education Association.*

ENGINEERING SCHOOLS AND THE INDUSTRIAL OUTLOOK

AMERICAN industry during the next decade will need 40,000 men annually for positions of responsibility. The engineering schools of the country are graduating men at the rate of 9,000 a year.

These facts have been brought out as the result of an investigation recently completed by the National Industrial Conference Board, which has 34 affiliated industrial organizations. This investigation was carried through by an advisory joint conference committee, consisting of representatives of the board and of the Society for the Promotion of Engineering Education. The findings are presented in special report number 25 of the board.

"Our investigation has developed the fact," writes the managing director Mr. Magnus W. Alexander, "that industry may need about 400,000 more men for positions of responsibility by 1930 than were employed in 1920, not counting replacements. To meet this demand of approximately 40,000 annually, the engineering colleges are only graduating men at the rate of 9,000 per year, a large percentage of whom will at first or eventually select work other than in industry. Obviously, the problem of the proper selection, education and training of a sufficient supply of young men capable of filling positions of technical and administrative responsibility is a great one, requiring the attention of every progressive educator and industrialist."

Mr. Alexander is addressing a letter to presidents of technical schools and colleges urging activity in obtaining engineering students to meet the present and future demands of industry.

The following is a summary of points made in special report number 25 of the National Industrial Conference Board:

"Every industrial corporation of any considerable size must have a well-thought-out educational policy." An adequate policy involves two main lines of procedure; first, educational practice within the industry, and, second, cooperation with educators.

1. *Educational Practice within the Industry.*
   (a) More and better training courses in industrial establishments.
   (b) More effective use of correspondence and extension courses and night schools.
2. *Cooperation of Industry with Educators.*
   This involves, on the part of industrialists:
   (a) Coordination of effort of industrialists and educators.
   (b) Accurate understanding of what may be reasonably expected of the engineering schools in the discovery and development of engineering and administrative talent.
   (c) Personal interest in neighboring engineering schools.
   (d) Provision of opportunities for practical training of instructors of engineering schools.
   (e) Assistance in locating and securing competent instructors for schools.
   (f) Measures which will increase the esteem in which educators are held and increase the inducement of the teaching profession to the men who have the teaching instinct.
   (g) Assistance in formulating tests for fitness, intelligence and character, as a basis for admission to engineering schools.
   (h) Proper coordination of practical training courses with engineering courses of neighboring schools.
   (i) Assistance in enlightening preparatory schools regarding the value of engineering and science courses; also influencing preparatory schools to employ adequate intelligence tests to prove which boys have "science minds" and to direct towards engineering and science courses all who have such characteristics.

As a concomitant of such operation by industrialists, they in turn should look for cooperation from educators in the following ways:

(a) Assistance in locating and securing men with teaching instincts who may help in the educational work of the industrial establishment.
(b) Assistance in development of tests for fitness, intelligence and character of recruits for industry.
(c) Assistance in development of training courses for instructors and students and in the development of general educational policy and procedure.

EDUCATIONAL RESEARCH AND STATISTICS

FACTORS INFLUENCING THE SCHOOL SUCCESS OF THE BLIND

IN a recent article[1] Allen calls attention to

[1] "Special features in the education of the blind during the biennium 1918–1920," Bureau of Education Bulletin No. 16, 1921.

the most notable events affecting the status of the blind during the biennium 1918–1920, mentioning, among other things, the direction of the attention of society to the needs of the handicapped; the labor shortage which created many and new openings for their employment; and the federal law providing, under certain conditions, for the rehabilitation of people injured in industry and otherwise. In addition, he invites attention to certain arresting events in the special field of the blind, such as the final adoption of Braille as the uniform type to be used, and along with this the fivefold increase in the government subsidy to the American Printing House for the Blind; the successful growth of the new movement for teaching partially seeing children by themselves; the widening interest in psychological research among blinded school pupils; and finally, the successful teacher-training work for teachers and workers among the blind and semi-sighted.

Although the work of Hayes has been more than pioneer in the mental measurement of the blind, little serious attention has been given to making detailed and intensive studies of the psycho-pedagogical aspects involved in teaching the blind. The present article[2] endeavors to present some detailed and exact data regarding the factors influencing the school success of the blind and to contribute somewhat to the special pedagogy of the teachers working in the field.

Five factors possibly affecting school progress (other than that of general intelligence) are investigated in detail. They are: (1) Cause of blindness, (2) degree of blindness, (3) age at which blindness occurred, (4) sex, (5) age at entrance to school of those who were blind from birth or early infancy. The problem is attacked from two angles: (1) The consideration of marks on a percentage basis as assigned by teachers, and (2) the use of intelligence quotients determined by individual intelligence examinations.

MATERIAL FOR THE STUDY

Two hundred and forty students in the New York State School for the Blind, Batavia, New York, are included in the study. These 240 were selected from 344 on record, those not included being rejected because they had not been in school at least two years. The period of two years is selected arbitrarily as a fair minimum because (1) of the rather long period of adjustment required by sightless pupils in getting acquainted with the school and its organization, and (2) if a pupil does not remain in school for at least a two-year period (the cause of withdrawal generally being too much sight to warrant retention in a school for the blind, too low mentality, poor health, inability to adjust to school routine, parental desire, etc.), the withdrawing students contribute nothing very material to the problem in hand and can be omitted without affecting the practical outcome of the study.

TABLE I—SAMPLE RATING CARD

Year Ending	1910	'11	'12	'13	'14	'15	'16	'17	'18	'19	Arithmetical Mean
Reading	78	88	94	96	90	....	....	....	....	....	89
Writing	....	76	88	90	....	....	....	....	....	....	85
Spelling	82	91	95	95	97	92	....	....	....	....	92
Arithmetic	97	90	90	91	83	82	77	....	....	....	87
Geography	....	....	93	89	90	89	....	....	....	....	90
El. English	....	....	93	92	89	85	....	....	....	....	90
Physiology	....	....	93	....	....	....	....	60	79	....	77
U. S. History	....	....	....	....	91	90	....	....	....	....	91
Biology	....	....	....	....	....	....	....	42	68	....	55
Phy. Geography	....	....	....	....	....	....	....	....	....	....	....
Algebra	....	....	....	....	....	....	....	....	....	....	....
Geometry	....	....	....	....	....	....	....	....	....	....	....
English	....	....	....	....	....	....	....	84	86	87	85
German	....	....	....	....	....	....	71	....	87	77	78
Latin	....	....	....	....	....	....	....	....	....	....	....
History	....	....	....	....	....	....	79	....	....	93	86

[2] The data incorporated in the article were gathered by D. L. Hint, head academic teacher in the New York State School for the Blind, in the preparation of his thesis for the Master of Arts degree. Mr. Hint and the writer concur in the interpretation of the data.

Of the 240 pupils, 100 were girls and 140 were boys. Students entering the school as early as 1907 are included, but intelligence tests for these naturally were not available. The investigation was narrowed still further by leaving out of consideration all marks in music, piano tuning, industrial, gymnasties and typewriting classes, retaining for discussion herein the typical academic subjects of the elementary and secondary school. As a satisfactory working basis for handling the numerous class marks, the arithmetical mean of the marks given at the end of the four quarters of the school year is employed. As a further condensation the mean of the ratings for all the years that a pupil studied a given subject was found; finally the arithmetical mean of all marks in all these subjects for all the time a pupil was in school. This final measure is used as a representative rating of a pupil's success throughout all his elementary and high school work. Individual records were transcribed upon separate cards, Table I being typical, this particular pupil having a mean rating of 84.

The intelligence quotients employed were secured by Miss Edith Taylor, a carefully trained tester, using the Stanford-Binet Scale, modified for use with the blind by Dr. Samuel P. Hayes.

CAUSE OF BLINDNESS

Teachers of the blind invariably seek to learn the cause of the blindness of a new pupil, the impression having gained ground that there is some relation between the cause of blindness and school success. A detailed tabulation of the causes for the loss of sight of the 240 pupils was made from the examination blanks of the school's ophthalmic examiner (see Table II).

It is evident that 53 per cent. of the cases is due to the first three causes, the remaining 47 per cent. being scattered through a list of 31 causes. Five groups are considered significant for the purposes of the present study—1, 2, 3, 6,

TABLE II—CAUSES OF BLINDNESS

Cause	Boys	Girls	Total	Per cent. of total
(1) Ophthalmia neonatorum	31	28	59	24.6
(2) Optic atrophy	19	16	35	14.6
(3) Congenital cataract	18	15	33	13.8
(4) Hydrophthalmus	12	2	14	
(5) Sympathetic ophthalmia	5	4	9	
(6) Congenital amblyopia	9	9	18	
(7) Traumatism and sym. ophthalmia	6	....	6	
(8) Choroiditis	5	1	6	
(9) Microphthalmus	4	1	5	
(10) Irido-cyclitis	3	3	6	
(11) Progressive myopia	1	1	2	
(12) Interstitial keratitis	3	4	7	
(13) Retinitis pigmentosa	....	3	3	
(14) Conical cornea	1	1	2	
(15) Detached retina	5	....	5	
(16) Chorido-retinitis	1	1	2	
(17) Lamellar cataract	1	....	1	
(18) Phylotenular keratitis	1	....	1	
(19) Corneal ulcers	2	....	2	
(20) Zonular cataract	1	1	2	
(21) Keratitis	2	2	4	
(22) Traumatism	1	....	1	
(23) Trachoma	1	....	1	
(24) Retinitis	1	1	2	
(25) Congenital malformation	1	....	1	
(26) Anterior polar cataract	1	1	2	
(27) Traumatic cataract	1	....	1	
(28) Neuro-retinitis	....	1	1	
(29) Uveitis	....	1	1	
(30) Purulent conjunctivitis	....	1	1	
(31) Ulcerative keratitis	....	1	1	
(32) Iritis	....	1	1	
(33) Cataract	....	1	1	
(34) Uncertain	4	....	4	
	140	100	240	

and a combination of the accidental (5, 7, 22, and 27).[3]

A study of the arithmetical mean of the teachers' marks obtained in each subject by pupils making up the five groups warrants rather definite conclusions that the cause of blindness is closely related to school progress. The following statements are justified: (1) Pupils who lost their sight through accident may be expected to do the best work; (2) optic atrophy cases come next in order; (3) ophthalmia neonatorum cases are third highest for the boys, with the girls practically equal to those of the congenital cases; and (4) congenitally blind of both sexes do the least satisfactory school work.

DEGREE OF BLINDNESS

Students in a school for the blind are classified for their degree of blindness as (1) total, (2) light perception, (3) ability to count fingers at various distances and (4) ability to read the Snellen test cards. The classification of the 240 cases concerned in this study is reported in Table III.

TABLE III—CLASSIFICATION ACCORDING TO DEGREE OF BLINDNESS

Degree	Boys		Girls		Total	
	No.	%	No.	%	No.	%
Total	41	29.3	28	28	69	28.7
Light per.	37	26.4	28	28	65	27.1
Fingers	41	29.3	33	33	74	30.8
Snellen	21	15	11	11	32	13.4

So far as practical educational value is concerned, total blindness and light perception may be safely classed together as being valueless. The third class can barely distinguish heavily lined maps and simple diagrams. The fourth group can read large clear-cut print and study maps and drawings under favorable light conditions.

When arithmetical means are determined both for boys and girls and classified according to degree of blindness (see Table IV), three conclusions may be drawn: (1) those totally blind and those with light perception do the best work if boys, and next to the best if girls; (2) those classed as having ability to count fingers do the least satisfactory work for both sexes; and (3) those tested by the Snellen cards, if boys, will do work equal to that of the first two groups, while the rating for girls will be materially higher than those with no sight or only light perception.

TABLE IV—ARITHMETICAL MEANS OF STUDENTS' MARKS

	Total	Light Per.	Fingers	Snellen
Boys				
El. subjects	83	84.2	81.2	83.3
High school	83.9	84.1	79.8	82.7
Total	83.4	84.2	80.5	83
Girls				
El. subjects	79.7	80.4	81.3	83.3
High school	83.7	82.6	77.9	83.5
Total	81.7	81.5	79.6	83.4

In reference to the three conclusions, it may be pointed out that students totally blind or merely having light perception are not tempted to rely on any visual powers and hence concentrate upon touch; that the possession of sufficient sight to count fingers renders the student unwilling to rely on touch even though he can not do well with vision, hence resulting in a bad dissipation of effort and attention; that the conflicting results for the sexes in the last group is due probably to the fact that the psychology of the job has succeeded in pulling out of school (especially the high school) all but the poorer male students, while the girls of this group are still in attendance.

AGE AT INCIDENCE

In studying the factor of age at incidence, the following ages are chosen, herein making a sixfold classification: Group I, from birth to 23 months; II, from 2 to 5 years; III, from 6 to 10 years; IV, from 11 to 15 years; V, from 16 to 20 years; and VI, 21 and above. These divisions are arbitrarily made and have justification only for statistical practicability, with the possible exception of Group I, where there is some psychological justification in grouping together all children blinded before reaching two years of age.

When arithmetical means for both sexes in the various subjects are determined, Table V is derived. The results indicate that those in

[3] *Ophthalmia neonatorum* is probably due in most cases to infections at or very shortly after birth. *Optic atrophy* produces blindness through inflammation and deterioration of the optic nerve. *Congenital amblyopia* is a loose term to cover cases where the exact cause of the congenital blindness can not be definitely ascertained. The combination group is due to accidental injuries to the eye by gunshot, arrow, scissors, knives, etc.

TABLE V—ARITHMETICAL MEAN OF TEACHERS' MARKS ARRANGED ACCORDING TO AGE AT INCIDENCE

	I	II	III	IV	V	VI
Age	B-23	2-5	6-10	11-15	16-20	21-
Boys						
El. sub.	82.5	84.3	84.5	86.6	86.9	
H. S. sub.	81.6	88.7	83.5	86.6	85.6	
Total	82	86.5	84	86.6	86.3	
Girls						
El. sub.	80.6	81.6	87.4	80.1	87.8	86.9
H. S. sub.	81.1	87.9	77.7	.....	86.8	.....
Total	80.9	84.7	80.7	80.1	87.3	86.9

Group I have a rating approximately equal to the arithmetical mean of the ratings of the first four groups discussed under "cause of blindness," the ratings of the remaining five more nearly approaching those of the fifth or accidental group. In general, the statistics show that early incidence correlates with low school success and that teachers' marks will be materially better for students not losing sight before the age of two years. Probably the causes responsible for congenital blindness cause a wide disarrangement within the nervous system, this tending to make school progress relatively difficult; also, those blinded after infancy have a mass of visual memories very advantageous in school work.

AGE AT ENTRANCE

In many cases beginning the education of blind children is often postponed beyond the customary age of six years. Teachers of the blind generally hold to the opinion that the problem of learning to read is much harder for the more mature pupils and that, if sightless children were sent to school when quite young, the entire teaching problem would be rendered easier and better results secured. To answer these questions, a statistical treatment is made upon four three-year periods of entrance, including only those pupils blind before the age of two years. In Group I are those who entered at the ages 4, 5 and 6; Group II at 7, 8 and 9; Group III at 10, 11 and 12; and Group IV at 13, 14 and 15. Means of achievement in the school subjects are shown in Table VI. These results, based on the elementary and high school subjects, show that, of those blinded before the age of two years, boys entering at ages 10–12 do the best work, girls at 13–15, while for both sexes those entering at 4–6 do the lowest grade. Comparable results follow for the specific instructional field of reading, early entrants securing least satisfactory marks throughout their school course. It may be concluded, therefore, that (1) entrance before the age of 7 is of no advantage from the standpoint of school success and (2) late entrance does not necessarily result in low grade attainments.

TABLE VI—ARITHMETICAL MEANS ACCORDING TO AGE AT ENTRANCE

Age	4,5,6	7,8,9	10,11,12	13,14,15
Boys				
El. sub.	79.4	82.4	85.3	84.7
H. S. sub.	80.1	78.7	84.9	81.8
Total	79.7	80.5	85.1	83.3
Girls				
El. sub.	71.4	82.6	80.3	81.3
H. S. sub.	.....	80.9	77.8	83.9
Total	74.1	81.8	79.2	82.6
Reading				
Boys	73.8	79.1	82.1	82.4
Girls	66.4	81.4	81.5	79.6

SEX DIFFERENCES

Since sex records are kept distinct throughout this study, these are now easily brought together in Table VII. With only three exceptions the arithmetical means of the teachers' marks for the boys are higher than those for the girls. Although this condition is contrary to that usually found in public schools, it should not be interpreted to mean that sightless pupils, from the educational standpoint, are essentially different from those in public schools. Several factors

TABLE VII—SUMMARY OF SEX DIFFERENCES

Cause	O. N.	Optic At.	Cong. Cat.	Cong. Amb.	Acc.
Boys	82.6	83.8	81.1	81.7	87.2
Girls	79.5	81.8	79.9	80.4	83.6

Degree	Total	Light Per.	Fingers	Snellen
Boys	83.4	84.2	80.5	83
Girls	81.7	81.5	79.6	83.4

Age at Incid.	B-23	2-5	6-10	11-15	16-20	21-
Boys	82	86.5	84	86.6	86.3	.....
Girls	80.9	84.7	80.7	80.1	87.3	86.9

Age at Entrance	4,5,6	7,8,9	10,11,12	13,14,15
Boys	79.7	80.5	85.1	83.3
Girls	74.1	81.8	79.2	82.6

probably contribute to the situation. The course of study may be more attractive to the boys or the methods of instruction more suited to them. Perhaps the girls devote relatively too much time and energy to the musical, industrial and gymnastics phases of school work, or study conditions are in the boys' favor. Probably all these are operating to condition the obvious results, namely, the boys under consideration may be expected to do a materially higher grade of work than the girls.

I. Q's and Correlation

Intelligence quotients of the students distribute as follows:

I. Q.	No. of Pupils	I. Q.	No. of Pupils
Above 120	8	80–90	19
110–119	17	70–79	9
100–109	58	60–69	5
90–99	32	50–59	1

The distribution shows more quotients below 80 per cent. than is to be expected in public schools, thus emphasizing the fact that elimination because of low grade intelligence is not as rapid or as sure in the institution as in the public schools.

In an effort to evaluate the reliability of the teachers' marks employed throughout the investigation, three correlations are made, these being shown in Table VIII.

Table VIII—Correlations between I. Q's, Teachers' Marks and Estimates

	Boys	Girls
I. Q. with teachers' estimate	.69 ± .036	.78 ± .031
I. Q. with teachers' marks	.42 ± .058	.16 ± .08
Teachers' marks with estimates	.504 ± .017	.43 ± .071

The correlations are positive and, in general, significant and reliable. Two factors contribute to the unusually high correlation between teachers' estimates (following Terman's fivefold classification) and intelligence quotients. First, the teachers' estimates used are obtained by taking the median of the vote of all teachers and matrons in the school. Second, the fact that the pupils live in the school gives teachers a better chance than is ordinarily afforded to estimate the pupil ability.

No satisfactory discussion can now be given for the very low correlation between teachers' marks and the intelligence quotients of the girls. Several factors may contribute to it, such as the fact that most of the teachers in the institution are women, the course of study may be better adapted to boys, the intelligence test used may not be equally satisfactory for both sexes, etc.

Conclusions

The statistical treatment of teachers' marks as a measure of school success in elementary and high school subjects of 140 boys and 100 girls who had been in the New York State School for the Blind for a period of at least two years warrants the drawing of the following conclusions regarding factors conditioning school progress:

(1) Cause of blindness. The lowest grade of work is done by the congenitally blind, the highest by those blinded accidentally.

(2) Degree of blindness. Ability to count fingers at various distances results in the poorest school work, probably because of the unavoidable lack of concentration, the three remaining classes doing practically the same quality of work.

(3) Age at incidence. Incidence before two years results in unsatisfactory work, the possession of visual memories being of material advantage to pupils losing their sight later in life.

(4) Age at entrance. Entering school before the age of 7 is of no advantage so far as school success is concerned, and late entrance does not prevent good school work.

(5) Sex. Sex differences are small and insignificant, the boys surpassing the girls quite uniformly.

(6) Correlations. Correlations between teachers' marks, teachers' estimates and intelligence quotients are high and easily interpreted, with the exception that a fairly low correlation is secured between teachers' marks and the intelligence quotients of the girls. This fact may detract from the value of certain conclusions based on the girls' marks. In any event, it raises problems for future study.

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